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CHINESE ANTS.

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No. 7.—*Chinese Ants.*

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CONTRIBUTIONS FROM THE ENTOMOLOGICAL LABORATORY OF THE BUSSEY
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WITHIN the past months I have received several small collections of Chinese ants. Some of them were made in Soochow, Mokanshan, and other localities by Prof. N. Gist Gee, one was made in Hong-kong by Mr. Terry and contributed by Dr. F. X. Williams, of Honolulu, one in various localities in southern China by Mr. F. Muir, and one in Canton by Prof. C. W. Howard. Although several species of Formicidae have been recorded from China, their distribution is so imperfectly known that it seems advisable to publish a list of my specimens, especially as everything pertaining to the fauna and flora of eastern Asia is of interest in connection with recent discussions of the problems of geographical distribution. Most of the ants received from Professor Gee, including several singular new species and some heretofore known only from Japan, belong, of course, to the Palaearctic fauna, whereas those from southern China are mostly identical with well-known species from India, Burma, and Siam and therefore belong to the Indomalayan fauna.

FORMICIDAE: PONERINAE.

1. STICTOPONERA MENADENSIS Mayr subsp. BICOLOR Emery.

A single worker from Hong-kong (Terry). Known from India, Burma, Tenasserim, the Malay Peninsula, and China.

2. DIACAMMA RUGOSUM (Le Guillou) subsp. GEOMETRICUM (F. Smith)
var. ANCEPS Emery.

Three workers and an imperfect male from Hong-kong (Terry), the type-locality.

3. BOTHROPONERA RUFIPES (Jerdon).

Two workers from Hong-kong (Terry). A well-known form from the Himalayas (up to 4,000 ft.), India, Ceylon, Burma, and Tenasserim.

4. ECTOMOMYRMEX JAVANUS Mayr.

One worker from Kuling, near Kiu-kiang. Nine workers from Mokanshan, one from Soochow and one female from Loka, between Shanghai and Foochow (Gee).

5. EUPONERA (BRACHYPONERA) LUTEIPES (Mayr).

A single worker from Hong-kong (Terry). Common throughout India, Ceylon, Burma, the Philippines, and the Malay Peninsula.

6. EUPONERA (BRACHYPONERA) NIGRITA Emery subsp.
CHINENSIS Emery.

Workers and females from Soochow and several workers from Mokanshan (Gee). The female measures 5 mm. The node is broader, higher, and more compressed anteroposteriorly than in the worker. The wings are rather opaque, grayish hyaline, with pale brown veins and pterostigma.

This subspecies was originally described from Shanghai. The typical *nigrata* ranges over Burma, Tenasserim, and India and is closely related to *E. (B.) solitaria* F. Smith of Japan.

7. LEPTOGENYS (LOBOPELTA) KITELI Mayr subsp.
ALTISQUAMIS Forel.

Three workers and an imperfect male from Hong-kong (Terry). Hitherto known only from the Thaungyin Valley, Tenasserim.

8. LEPTOGENYS (LOBOPELTA) PEUQUETI Ern. André.

A single worker from Mokanshan (Gee).

9. ODONTOMACHUS HAEMATODA (Linné).

Two workers from Hong-kong (Terry), several from Mokanshan, Soochow, Foochow, and Ziang San (Gee).

10. ODONTOMACHUS MONTICOLA Emery subsp. PAUPERCULUS,
subsp. nov.

Length about 6 mm.

Differing in its much smaller size from the typical *monticola*, its var. *longi* Forel and its subsp. *punctulatus* Forel, which measure from 10–13 mm. The

posterior border of the head is scarcely emarginate in the middle, the occipital furrow is distinct but there is no median furrow on the front. The inner border of the mandibles bears eight denticles, which diminish in size basally where they are very small. Of the three apical teeth the most basal is large, rectangular and slightly longer than broad. Petiole convex in front and behind with short, stout, apical spine. The body is smooth and shining, except the front which has fine, posteriorly fanwise diverging rugae, and the mesonotum and dorsum of the epinotum, which are finely, transversely rugose. The pronotum, mesopleurae, and sides of the epinotum are entirely smooth and shining like the head. The posterior portion of the latter is very indistinctly and sparsely punctate. There are only a few hairs and they are on the gula, ventral surfaces of the mandibles, and posterior portion of the gaster. Color brownish red; mandibles slightly paler; gaster of the same color as the thorax but slightly darker above behind the first segment. Legs brownish yellow.

A single specimen from Mokanshan (Gee).

This subspecies is both smaller and smoother than any of the described forms of *monticola* and seems to be a northern and probably depauperate race. Forel has described two additional varieties, *formosae* and *major*, of the same species from Formosa, but both have the posterior portion of the head distinctly striated, especially *major*, which measures 13.5–13.6 mm.

DORYLINAE.

11. AENICTUS FERGUSONI Forel.

Many workers from Mokanshan and Soochow (Gee).

PSEUDOMYRMINAE

12. TETRAPONERA BINGHAMI (Forel).

Two workers and a female from Hong-kong (Terry). Known from India, Burma, the Shan States, and Tenasserim.

MYRMICINAE.

13. SOLENOPSIS SOOCHOWENSIS, sp. nov.

Female. Length, 3.5–4 mm.

Head a little longer than broad, subrectangular. Eyes rather small, just in front of the median transverse diameter of the head. Anterior ocellus in a

distinct depression. Mandibles with oblique, 4-toothed blades, the basal teeth separated. Clypeus bicarinate, its anterior border with two stout median and two very small lateral denticles. Frontal area small, crescentic; frontal groove distinct; frontal carinae very short. Antennae 11-jointed; scapes not reaching to the posterior corners of the head; second funicular joint longer than broad; joints 3-8 fully as long as broad; basal joint of clava about half as long as the terminal joint. Thorax elliptical, robust, distinctly broader than the head; mesonotum nearly twice as long as broad; pronotum vertical in profile; epinotum abruptly sloping, short, with subequal base and declivity meeting at a rounded, very obtuse angle. Petiole somewhat longer than high, with short peduncle, furnished with a small ventral tooth at the anterior end, node from above somewhat transverse, broader than long, compressed anteroposteriorly. Postpetiole a little broader than the petiole, its node broader than long, very convex and rounded above. Gaster large, elliptical. Legs rather short.

Shining; mandibles very indistinctly striatopunctate, almost smooth. Head uniformly and rather coarsely punctate, front very finely and densely longitudinally striate; remainder of body with extremely fine, sparse, piligerous punctures.

Hairs white, very delicate, erect and abundant but rather short on the upper surface of the head, thorax, and pedicel, shorter and sparser on the gaster and appendages, somewhat oblique on the latter.

Yellowish brown; head darker and more reddish above; venter, posterior borders of gastric segments, mandibles, clypeus, cheeks, and appendages yellow; mandibular teeth dark brown. Wings whitish hyaline, with almost colorless veins and pale brown pterostigma.

Male. Length, 2.5-3 mm.

Head, including the eyes as broad as long, somewhat flattened above, semi-circularly rounded behind, with very short cheeks. Mandibles slender, with three subequal teeth. Clypeus convex in the middle, without carinae, its anterior border feebly concave, edentate. Antennal scapes very short, as long as the two basal funicular joints together; first funicular joint swollen, a little longer than broad. Thorax like that of the female, but the epinotum more convex, with round, sloping base, much longer than the concave declivity. Petiole without a ventral tooth, its node very low; postpetiolar node flattened above. Legs slender.

Body smooth and shining as in the female, but head without coarse punctures, merely finely reticulate on the cheeks and behind the ocelli.

Hairs on the head, thorax, and pedicel much shorter and less abundant, those on the appendages very fine, sparse, and closely appressed.

Color like that of the female, body and head a little darker. Wings as in the female.

Described from numerous specimens of both sexes taken at Soochow by Prof. N. Gist Gee.

This species is evidently closely related to the common Eurasian *L. fugax* Latr., but is certainly distinct. The female of the latter species is considerably larger (4.7-6 mm.), darker, with much less shining head, thorax, and pedicel, with the thorax almost as coarsely punctate as the head, the epinotum more projecting, with very distinct base and declivity, a much shorter peduncle to the petiole, shorter median funicular joints, darker wing venation, sparser and more bristly hairs. The male *fugax* is also larger than the male *soochowensis*, much darker and more pilose, with the head, through the eyes, broader than long, finely rugulose and subopaque. In size, sculpture, and color of the two sexes and in the shape of the female epinotum and color of the wings the Chinese species is much more like the common Nearctic *S. molesta* Say, but the petiole and post-petiole of the female *molesta* are very differently shaped, the thorax is much narrower and more elongate, the pilosity is coarser, the head of the male is more narrowed and less rounded behind and the antennal scapes are decidedly shorter.

14. PHEIDOLOGETON DIVERSUS (Jerdon).

A soldier and female from Hong-kong (Terry) and two soldiers from Macao (Muir). A common and conspicuous ant throughout India, Burma, the Malayan Region and the Philippines.

15. PHEIDOLOGETON AFFINIS (Jerdon).

Several soldiers and workers from Hong-kong (Terry). With much the same distribution as the preceding species.

16. PHEIDOLOGETON VESPILLO, sp. nov.

Worker maxima (?). Length, 3.5 mm.

Head rectangular, slightly longer than broad, with straight, parallel sides and very feebly excised posterior border, evenly convex above and below in profile. Eyes very small, flat, consisting of about 7-10 minute ommatidia, situated about $\frac{2}{5}$ the distance from the anterior corners of the head. Mandibles convex, with five blunt teeth, the two at the apex larger. Clypeus convex in the middle, with a pair of blunt, anteriorly diverging ridges, narrow and depressed on the sides, the anterior border sinuately notched in the middle. Frontal area small and indistinct, at the anterior end of a small elongate triangular impression. Frontal groove and carinae short, the latter diverging

posteriorly. Antennae slender, the scapes reaching a little beyond the anterior half of the lateral border of the head; funicular joints 2-6 as long as broad, joints 7 and 8 longer than broad; basal joint of clava $\frac{2}{3}$ as long as the terminal joint. Pro- and mesonotum in profile very convex, rounded, hemispherical, without promesonotal suture, from above half as broad as the head, as broad as long, narrowed behind to the deep mesoepinotal constriction. Epinotum short, its base straight in profile and shorter than the sloping declivity, with a pair of erect, flattened teeth which are as long as broad at the base and curved forward and outward. Their bases are continued as a pair of anteriorly converging ridges on the base of the epinotum and posteriorly as a pair of parallel ridges down the sides of the declivity. Petiolar node small, angular in profile, with both the anterior and posterior slopes straight, its ventral outline evenly convex. Postpetiole large, three times as broad as the petiole, as long as broad, slightly narrower in front than behind, evenly rounded and convex above, but not higher than the petiole. Gaster smaller than the head, with straight anterior border. Legs rather long.

Very smooth and shining. Mandibles with a few small, very sparse punctures, their bases striated. Sides of clypeus, cheeks, and space on each side medial to the frontal carinae longitudinally striated. Mesopleurae and epinotum subopaque, the former very finely punctate-rugulose.

Hairs golden yellow, very sparse, erect, and rather long on the dorsal surface of the body, on the legs more numerous, fine and appressed.

Red; gaster and legs yellow.

Worker minima. Length, 1.5-1.8 mm.

Resembling the large worker, except in the small size of the head, which is more distinctly longer than broad, with more convex sides and more rounded posterior angles. Eyes smaller, a little in front of the middle of the sides. Mandibles, pro- and mesonotum less convex, the apical margins of the former oblique, with more acute teeth. Teeth of epinotum very small and slender, directed upwards.

Sculpture, pilosity, and color as in the larger worker.

Described from nine *maxima* and two *minima* workers from Mokanshan (Gee). Some of the former are almost intermediate in the size of the head between the two extremes. I am not certain that the largest really represent the *maxima* of this species which is closely related to such small Pheidologetons as *nanus* Roger of India and especially to *yanoi* Forel of Formosa.

17. PHEIDOLE RHOMBINODA Mayr.

Many soldiers and workers from Soochow and Mokanshan; females and males from Soochow and between Shanghai and Soochow (Gee).

18. *CREMATOGASTER ROGENHOFERI* Mayr.

A single worker from Lo-foo-shan, 100-1,000 ft. (Muir), two workers from Soochow (Gee), and several from Canton (C. W. Howard). Known from India, Ceylon, Burma, and Cochin.

19. *CREMATOGASTER LABORIOSA* F. Smith.

Several workers from Soochow (Gee). Previously known only from Japan.

20. *MESSOR LOBULIFER* Emery.

Workers, males and females, from Soochow, "nesting on the university campus," Foochow and Mokanshan (Gee). Known from Mongolia and Shanghai.

21. *APHAENOGASTER GEEI*, sp. nov.

Worker. Length, 6.5-7.5 mm.

Head, including the mandibles, broadly and regularly elliptical, longer than broad, rounded behind, with marginate occipital border. Vertex with a distinct impression in the median line. Eyes moderately large, convex, at the middle of the sides of the head. Mandibles rather long, with straight lateral borders, three large apical and several smaller and more irregular basal teeth. Anterior border of clypeus rather broadly and sinuately emarginate in the middle. Frontal area large, triangular, impressed. Antennae slender; scapes extending scarcely more than $\frac{1}{4}$ their length beyond the occipital border of the head, at the base furnished with a flattened lobe resembling that of the North American *A. treatae* Forel, but smaller; all the funicular joints decidedly longer than broad, the terminal joints not forming a distinct clava. Thorax slender, narrower than the head, with pronounced mesoëpinal constriction. Pronotum and anterior portion of mesonotum forming together a hemispherical mass, with evenly rounded dorsal and lateral surfaces; posterior portion of mesonotum sloping backward to the short mesoëpinal constriction. Epinotum longer than broad or high, its base horizontal, feebly and evenly convex in profile and much longer than the vertical declivity, armed with two rather acute spines, which are scarcely longer than broad at the base and directed upward, backward, and outward. Petiole slender, its peduncle nearly as long as the node, which is somewhat conical in profile, with subequal anterior and posterior slopes. Postpetiole nearly twice as broad as the petiole, slightly longer than broad, with very convex, rounded node. Gaster of the

usual shape, rather large. Legs long, fore coxae somewhat swollen as are also the middle portions of the femora.

Legs, including the coxae, mandibles, clypeus, frontal area, scapes, upper surfaces of the nodes, in some specimens, and gaster, shining; remainder of body nearly opaque. Mandibles sharply and densely striate. Clypeus longitudinally rugose. Head densely punctate and rugose, the rugae concentric around the antennal foveae, coarser, diverging and more or less anastomosing on the front, longitudinal on the sides of the head, coarse above and very fine below the eyes. Thorax, petiole, and postpetiole very finely and densely punctate, and with the exception of the mesopleurae very finely and indistinctly rugulose; base and declivity of epinotum very finely, transversely rugulose. Extreme base of first gastric segment above opaque, finely and densely punctate. Legs and remainder of gaster very smooth and shining, with very sparse, minute, piligerous punctures.

Hairs on the body yellowish, moderately abundant, coarse, and erect, not longer nor more abundant on the gaster than on the head and thorax; more numerous, shorter, finer, and subappressed on the scapes and tibiae.

Castaneous red; upper surface of head, except behind and in front, blackish; gaster black, except its tip. The latter, the trochanters, and bases of the femora more yellowish.

Female. Length, 9–10 mm.; wings, 10–10.3 mm.

Head, excluding the mandibles, scarcely longer than broad, distinctly broader behind than in front, with distinct, though rounded posterior corners. Antennae with the scapes lobed at the base as in the worker, but reaching only about $\frac{1}{5}$ their length beyond the posterior corners. Thorax very robust, broader than the head and as high as long. Epinotum steep, with distinct basal and declivous surfaces and with very stout, straight spines, which are distinctly longer than broad at their bases. Petiole and postpetiole similar to those of the worker, but stouter, with their nodes more compressed antero-posteriorly and each bearing a small, blunt tooth at the anterior end on the ventral surface. Gaster voluminous, broadly elliptical. Wings with a complete discoidal and two cubital cells.

Sculpture like that of the worker but much coarser. Pro- and epinotum transversely, pleurae, mesonotum, paraptera, and scutellum longitudinally rugose; mesopleurae partly smooth and shining and mesonotum with a median shining streak on its anterior half. Basal third of gaster opaque and densely punctate, the sparse, piligerous punctures on the remainder of the surface larger and more conspicuous than in the worker.

Pilosity like that of the worker, but the hairs more deeply yellow.

Nearly black; mandibles, cheeks, clypeus, appendages, posterior borders of gastric segments, and wing articulations, castaneous red. Wings colorless, with yellow veins and dark brown pterostigma.

Male. Length, 5–5.5 mm.

Head small, flattened above and below, including the eyes longer than broad and produced posteriorly. Cheeks very short. Mandibles with oblique

apical borders bearing two larger terminal and three or four minute basal teeth. Clypeus with entire, broadly rounded anterior border. Scapes of antennae very short, not longer than the first two funicular joints together, broader at the base than at the tip; funicular joints all longer than broad. Thorax resembling that of the European *A. gibbosa* Latr., but more extreme, the posterior extension of the epinotum being nearly as long as the more anterior portion of the thorax and the constriction separating the two being more pronounced. The epinotal spines are reduced to a pair of minute teeth. Mesonotum extremely convex, in profile with a vertical, rounded, anterior and horizontal, rounded posterior surface. Nodes of the petiole and postpetiole very low, the peduncle of the former cylindrical, constricted anteriorly, the postpetiole campanulate. Gaster subtriangular. Legs, including the coxae, very slender, the middle and hind femora sinuately bent.

Smooth and shining; head opaque, finely and densely punctate, slightly shining about the ocelli. Pronotum very sparsely and rather coarsely punctate.

Hairs longer and much sparser than in the worker.

Black; legs piceous; mandibles, antennae, and tarsi dull yellowish. Wings colored as in the female, but the pterostigma is paler.

Described from eighteen workers, nine females and ten males taken from a single colony at Soochow by Prof. N. Gist Gee, to whom the species is dedicated. Also workers from Foochow. It is related to the Japanese *A. famelica* F. Smith, of which only the worker is known. This form is more brownish and less reddish, smaller and more slender, with longer head and antennae, and the scapes have no lobe at the base; the sculpture is feebler, the head behind and the pronotum, petiole, and postpetiole are smoother and shining, the transverse rugae on the base of the epinotum are more pronounced and the epinotal spines are smaller and more erect. The pro- and mesonotum above are not so high and rounded as in *geei*. The workers of the latter were compared with three workers of *famelica* from Saitama, Japan, in my collection.

22. APHAENOGASTER EXASPERATA, sp. nov.

Worker. Length, 5.5–6 mm.

Head oval, without posterior corners, less than $1\frac{1}{2}$ times as long as broad, with marginate occipital border. Eyes convex, at the middle of the sides. Mandibles with slightly concave external borders, with three large apical and several smaller basal teeth. Clypeus rather flat in the middle, its anterior border indistinctly notched. Frontal carinae erect, lobular, prominent. Frontal area large, triangular, impressed. Antennal foveae large. Antennae

long and slender; scapes not lobulate at the base, straight, reaching nearly $\frac{1}{2}$ their length beyond the occipital border; funiculi with indistinctly 4-jointed clava; joints 2-5 fully twice as long as broad. Thorax long and slender; pronotum flattened above and obscurely submarginate on the sides. Promesonotal suture distinct. Mesonotum slightly and abruptly raised in front and then sloping backward and downward, with rather uneven outline in profile, to the short and rather deep mesoepinotal constriction. Epinotum longer than high or broad, its base rising abruptly in front, distinctly convex above and twice as long as the declivity, longitudinally grooved in the middle; the spines acute, directed upward and backward and slightly curved inward; as long as the declivity and the interval between their bases. Petiole rather small, twice as long as broad through the node, which is shorter than the peduncle, conical above and constricted behind. Postpetiole pyriform, longer than broad, somewhat less than twice as broad as the petiolar node, the node feebly convex anteriorly in profile and distinctly concave behind. Gaster rather large. Legs long and slender. Middle and hind tibiae with distinct but slender spurs.

Shining; mandibles subopaque, very finely and sharply longitudinally striate. Head coarsely and sharply reticulate rugose, the rugae diverging on the front, those starting from the anterior corners making a sigmoidal curve, bending outward around the antennal foveae, turning inward around the inner orbits and then laterally again. Neck finely and transversely rugulose. Thorax coarsely rugulose like the head but less strongly and more irregularly. Pronotum above smooth and shining in the middle, on the sides finely and longitudinally striate. Base of epinotum strongly and rather regularly transversely rugose, the concave declivity with similar but feebler sculpture; mesopleurae and sides of epinotum more irregularly punctate-rugose. Petiole and postpetiole smooth and shining, except their ventral surfaces which are subopaque and very finely and densely punctate. Gaster smooth and shining, the basal third of the first segment subopaque and very finely and densely striolate.

Hairs yellow, coarse, obtuse, moderately long and abundant on the body, much finer and more appressed on the legs, especially on their flexor surfaces.

Dark reddish brown; legs, including the middle and hind coxae, the tip of the gaster, and the posterior margins of its segments brownish yellow; mandibles, neck, sides of pronotum, fore coxae, and antennae red; apical halves of femora infuscated.

Described from eighteen specimens taken by Professor Gee at Mokanshan.

This species is very distinct, being quite unlike *famelica* and *geei*. In certain respects it resembles *A. rothneyi* Forel of India and central China and especially its subspecies *tipuna* Forel of Formosa.

23. *MONOMORIUM PHARAONIS* (Linné).

Workers and females from Canton (C. W. Howard) and Soochow (Gee).

24. *MONOMORIUM CARBONARIUM* F. Smith.

Workers from Soochow and between Shanghai and Foochow (Gee).

25. *MYRMECINA GRAMINICOLA* (Latreille) subsp. *SINENSIS*,
subsp. nov.

Worker. Length nearly 2.3 mm.

In size and color closely resembling the subsp. *nipponica* Wheeler of Japan but differing in the following particulars: — Head with more rounded sides and posterior corners. Clypeus completely lacking the teeth which are so prominent in the typical European *graminicola* and even in the Japanese form. The anterior border of the clypeus is merely rounded and sinuately emarginate in the middle. The epinotal spines and teeth are much as in *nipponica*, but the sculpture and pilosity are different. The mandibles are opaque and very finely shagreened; the rugae of the head and thorax are much less pronounced and the surface is more opaque. The hairs on the dorsal surface of the body are much shorter and distinctly more appressed, especially on the gaster.

Described from two specimens from Mokanshan (Gee).

26. *PRISTOMYRMEX JAPONICUS* Forel.

A single worker from Soochow and sixteen workers from Mokanshan (Gee). This species, originally described from Japan, has also been recorded by Forel from Formosa.

27. *TETRAMORIUM CAESPITUM* (Linné).

Numerous workers from Mokanshan and between Shanghai and Foochow and a few from Soochow and Western Hills, Peking (Gee), all very much like the typical European form.

28. *MERANOPLUS BICOLOR* (Guérin).

A single worker from Hong-kong (Terry). This is a common species in India, according to Bingham "avoiding only the hot plains of

the North Western Provinces, Punjab and Central India. Common throughout Burma and Tenasserim and extending to the Malayan subregion."

DOLICHODERINAE.

29. DOLICHODERUS (HYPOCLINEA) TAPROBANAE F. Smith.

Workers and females from Canton (C. W. Howard).

30. LIOMETOPUM SINENSE, sp. nov.

Worker. Length, 3.3–4.5 mm.

Head large and broad, as broad as long, very broad behind, narrowed in front, the anterior corners not swollen and prominent. Mandibles moderately convex, with four large apical and five or six smaller basal teeth. Clypeus rather flat in the middle, cearinate, with straight, transverse anterior border. Eyes flattened. Frontal area and frontal groove obsolete. Frontal carinae subparallel, diverging only at their extreme posterior ends. Antennal scapes scarcely reaching beyond the posterior corners of the head; funicular joints 1–6 distinctly longer than broad, joints 7–10 as broad as long, terminal joint as long as the two preceding joints together. Thorax narrower than the head; with distinct promesonotal and mesoëpinotal sutures; in profile with the dorsal outline straight, gradually sloping backward from the anterior end of the mesonotum to the epinotal declivity, which is a little shorter than the base of the epinotum, feebly convex and more steeply sloping. Petiolar node in profile cuneate, not very thick at the base, inclined forward, narrowed and gradually compressed anteroposteriorly, above with narrowly rounded but rather acute border. Gaster large and somewhat flattened dorsoventrally. Legs moderately long and stout.

Shining; very finely and densely punctate-shagreened; mandibles sparsely and evenly punctate.

Hairs and pubescence pale yellow, the former very delicate and sparse, rather short and of uneven length. Pubescence very short and delicate, closely appressed on the head, thorax, petiole, and appendages, and so dilute as not to conceal the sculpture; on the gaster longer, denser, and coarser, diverging from the middorsal line posteriorly on the first segment and strongly converging towards this line on the second and third segments.

Reddish brown, gaster dark brown, with the posterior borders of the segments brownish yellow; mandibular teeth black; tarsi yellowish; tips of tarsal claws dark brown; femora, except their bases and tips, darker than the tibiae.

Described from eighteen specimens taken at Soochow by Professor N. Gist Gee.

Resembling *L. lindgreeni* Forel of Assam and Burma in color, but the head in this species, judging from a cotype received from Professor Forel, is decidedly smaller and narrower behind, the eyes are much more convex, the antennal scapes extend nearly $\frac{1}{5}$ their length beyond the posterior border of the head, the petiolar node is lower and thicker, and the hairs and pubescence are longer and less appressed, especially on the tibiae and antennal scapes. On these parts, in fact, the hairs are abundant and suberect. The pubescence on the gaster seems to be somewhat sparser than in *sinense* and seems not to converge or diverge but to be directed uniformly backward on all the segments. The specimen is rather greasy, however, so that I am in doubt in regard to this character. Forel makes no statement concerning the arrangement of the gastric pubescence. The South European *L. microcephalum* Panzer is more like *sinense* in the size of the head, but it is not so broad and its anterior angles are conspicuously swollen, the thorax is more convex and arcuate in profile, the petiole is more acuminate above, and though the pubescence on the gaster is similar in texture and arrangement, the erect hairs on the head and thorax are longer and more abundant. The color of the body is very different.

31. LIOMETOPUM SINENSE var. SERICATUM, var. nov.

Worker. Differing from the typical *sinense* in having somewhat larger eyes and the anterior angles of the head more protuberant, in the less reddish and more fuscous tint of the body and in the pubescence, which is much finer and denser, especially on the gaster so that the surface is completely concealed. The pubescence is also more silky and more yellowish.

Numerous workers from Mokanshan (type-locality), Foochow and Soochow, and a single defective female from Foochow (Gee).

32. TECHNOMYRMEX MODIGLIANII Emery subsp. ELATIOR Forel.

A single worker from Dei Chow, East River (Muir). Previously known from Upper Burma and the Shan States.

33. TAPINOMA MELANOCEPHALUM (Fabricius).

A single worker from Macao (Muir). A well-known tropicopolitan species.

34. IRIDOMYRMEX GLABER Mayr.

A single worker from Soochow (Gee).

35. IRIDOMYRMEX ANCEPS Royer.

Numerous workers taken between Shanghai and Foochow (Gee).

FORMICINAE.

36. PLAGIOLEPIS ROTHNEYI Forel subsp. WATSONI Forel.

A worker from Macao and one from Lo-foo-shan, 100-1,000 ft. (Muir). According to Bingham, "spread throughout the whole of Burma and Tenasserim and extending into Siam." The typical form of the species occurs in Bengal and western India.

37. PLAGIOLEPIS WROUGHTONI Forel.

Workers, males and females from Soochow, Foochow, and Pei-tai-ho, North China (Gee).

38. PRENOLEPIS (NYLANDERIA) FLAVIPES (F. Smith).

Two workers from Soochow (Gee). Previously known only from Japan.

39. PRENOLEPIS (NYLANDERIA) EMMAE Forel.

Worker. Length, 2.3-2.8 mm.

Head nearly circular, with rather large, elliptical and moderately convex eyes placed on the upper surface a little in front of the middle. Mandibles narrow, concealed under the clypeus which is convex but not carinate, with nearly straight anterior border. Frontal area indistinct. Antennae very long; the scapes straight and slender, extending a little more than half their length beyond the occipital border of the head; all the funicular joints more than twice as long as broad. Thorax long and slender, narrower than the head and of an aberrant structure. Pronotum feebly rounded in profile, nearly circular from above, as long as broad and nearly enclosing the anterior part of the mesonotum which is feebly concave in profile and strongly constricted behind where it joins the posterior portion. The latter is shorter than the anterior portion, broadened behind and bearing the mesonotal

stigmata on its dorsal surface. The epinotum rises suddenly in profile as a very convex, hemispherical mass, with distinct stigmata and subrectangular metasternal corners. Petiole nearly three times as long as broad, broadest in front where the node is situated, sides slightly concave from above, the posterior angles in the form of acute teeth. In profile the node is low and rounded, its anterior declivity short and very abrupt, its posterior declivity long, straight, and sloping. Gaster rather large, very convex above, its anteriorly bulging first segment with an impression on its surface for the accommodation of the underlying petiole. Legs long and slender.

Shining; head finely shagreened and less shining than the pronotum; remainder of thorax subopaque, very densely and indistinctly punctate-shagreened and somewhat glossy. Gaster and legs shining, with small, sparse, piligerous punctures.

Hairs yellow; the macrochaetae on the body long, curved, and prominent, absent on the mesonotum, epinotum, and petiole, not very blunt at their tips. Hairs on the legs and scapes delicate, oblique and more abundant.

Head yellowish brown; thorax brownish yellow; somewhat darker and more reddish posteriorly. Legs and anterior three fourths of gaster clear yellow; remainder of gaster dark chestnut-brown, sometimes with the base of the second segment yellow. Antennae somewhat paler than the head; flexor surfaces of the tibiae distinctly infuscated.

Redescribed from six specimens taken at Mokanshan (Gee).

This is a beautiful and very striking species, quite unlike any *Prenolepis* of which I have seen specimens or descriptions. In the peculiar structure of the thorax it remotely resembles *P. mjobergi* Forel and another Australian species (undescribed) in my collection.

40. *LASIUS NIGER* (Linné).

Six workers and a female from Soochow (Gee) and a single worker from Pei-tai-ho, North China (Gee).

41. *LASIUS* (*DENDROLASIUS*) *FULIGINOSUS* (Latreille).

A single worker from Hong-kong^m (Muir). Ranging from England to Japan and south as far as western India but not previously recorded from southern China.

42. *FORMICA FUSCA* Linné var. *JAPONICA* Motschulsky.

Numerous workers and two deälated females from Mokanshan, workers from Kuling, near Kiu-kiang (Gee). The females measure

8-8.5 mm. and closely resemble the worker in their opaque color and pilosity, except that the legs are darker.

43. *OECOPHYLLA SMARAGDINA* (Fabricius).

Numerous workers from Canton (C. W. Howard). This is the common Indomalayan "red tree-ant" which uses its larvae for spinning films of silk between the leaves that are brought together to form the nest.

44. *CAMPONOTUS HERCULEANUS* (Linné) subsp. *JAPONICUS* Mayr var. *ATERRIMUS* Emery.

Many workers, three females and two males from Soochow and numerous workers of all sizes from Mokanshan, Foochow, North Pei-tai-ho and Western Hills, Peking (Gee). Recorded from eastern Siberia and China.

45. *CAMPONOTUS CARYAE* Fitch var. *QUADRINOTATUS* Forel.

Many workers, a male and female from Soochow (Gee). Previously known only from Japan.

46. *CAMPONOTUS* (*DINOMYRMEX*) *DORYCUS* (F. Smith) subsp. *CARIN* Emery.

A single minor worker from Hong-kong (Muir) and five minor workers and a major from Mokanshan (Gee). Originally recorded from Tenasserim (Fea) and Burma (Bingham).

47. *CAMPONOTUS* (*MYRMOTURBA*) *BARBATUS* Roger subsp. *ALBO-SPARSUS* Forel.

Numerous workers from Soochow and Loka between Shanghai and Foochow (Gee).

48. *CAMPONOTUS* (*MYRMOTURBA*) *FRIEDAE* Forel.

Numerous workers taken between Shanghai and Foochow (Gee).

49. *CAMPONOTUS* (*MYRMOTURBA*) *NICOBARENSIS* Mayr var. *EXIGUOGUTTATUS* Forel.

Several workers and three females from Hong-kong (Terry) and a single worker from Dei Chow, East River (Muir). The typical form of the species occurs in the Nicobars, Burma, Assam, and China. The varieties *exiguoguttatus* and *monticola* Emery are merely darker forms.

50. *CAMPONOTUS* (*MYRMOSERICUS*) *RUFOGLAUCUS* (Jerdon) subsp. *PARIA* Emery.

A worker minor from Macao (Muir).

51. *CAMPONOTUS* (*COLOBOPSIS*) *LAOTSEI*, sp. nov.

Soldier. Length, 4–4.5 mm.

Head large, rectangular from above, about $1\frac{1}{3}$ times as long as broad, distinctly broader in front than behind, the posterior and lateral borders straight, the obliquely truncated anterior surface broadly and transversely elliptical, concave with very sharp border. Eyes moderately large, well behind the middle of the head. Median portion of clypeus somewhat concave but sharply carinate, parallel-sided, $1\frac{1}{2}$ times as long as broad on the truncated surface and extending onto the dorsal surface of the head where it forms a pair of angular projections when seen from above. Lateral portions of clypeus distinct, convex, triangular. Mandibles convex, about as broad as long, with four subequal teeth, the basal third of the apical border toothless, straight, and forming a perfect right angle with the basal border. Frontal carinae far apart, straight, and diverging. Frontal area small, impressed; frontal groove distinct as a shining line. Antennal scapes curved, not much thickened apically, their tips reaching half-way between the posterior orbits and the posterior corners of the head. Thorax only as long as the head, narrower, thick-set, evenly contracted behind, with distinct promesonotal and meso-epinotal sutures, the dorsal outline in profile straight and feebly sloping posteriorly; pronotum convex in front, epinotum with subequal base and declivity meeting at a very broadly rounded angle. Petiole small and very low, its superior border transverse and very blunt, distinctly emarginate in the middle. Gaster as long as the head and thorax together. Legs rather short, fore femora incrassated.

Shining; head and thorax sharply shagreened, the gaster transversely; anterior half of head more opaque, especially above and on the sides, densely and rather finely punctate-rugulose. Mandibles more shining, finely shagreened and indistinctly and finely punctate.

Hairs erect, whitish, short and extremely sparse, visible only on the head, gaster and tips of femora. Cheeks with short but distinct pubescence. Legs and scapes with still shorter, appressed hairs.

Black or dark brown; mandibles and anterior third of head red, antennae and legs paler brown, the femora infuscated, except at their bases and tips; tarsi and first funicular joint yellowish.

Worker. Length, 2.3-2.4 mm.

Head small, longer than broad, as broad behind as in front, convex above, with subparallel sides and nearly straight occipital border. Eyes large, nearly $\frac{1}{4}$ as long as the sides of the head, feebly convex. Mandibles narrow, apparently 4-toothed, folded under the clypeus, which is convex but ecarinate, trapezoidal, somewhat broader than long, with entire, broadly rounded anterior border. Frontal carinae short, slightly diverging. Antennal scapes extending about $\frac{1}{4}$ their length beyond the occiput. Thorax and gaster shaped much as in the soldier, but the petiolar node is convex in front and flat behind and has a sharp, obscurely emarginate superior border.

Sculpture, pilosity, and color as in the soldier, except that the mandibles and anterior portion of the head are as dark as the remainder and not punctate-rugulose.

Described from three soldiers and three workers taken by Professor Gee at Mokanshan.

This species is rather closely allied to *truncata* Spinola of Europe and especially to *rothneyi* Forel of India. These species, however, have the anterior portion of the head much more coarsely sculptured. The typical *rothneyi* is also of a very different color, having the head and thorax testaceous red and the gaster black. Forel has recently described a black form from Formosa as *C. rothneyi* var. *taivanae* from a female specimen measuring 6 mm. This may, perhaps, be conspecific with the soldier and worker described above.

52. POLYRHACHIS LAMELLIDENS F. Smith.

Workers from Mokanshan and Soochow (Gee) agreeing in all respects with specimens from Japan, the type-locality. This ant is also known from Hong-kong.

53. POLYRHACHIS (MYRMA) PYRGOPS Viehmeyer.

Two workers from Hong-kong (Terry) and seven from Mokanshan and one from Ziang San, near Ningpo (Gee).

54. POLYRHACHIS (MYRMHOPLA) DIVES F. Smith.

Six workers from Mokanshan and many taken between Shanghai and Foochow (Gee), together with pieces of the nest consisting of silk and vegetable detritus. This species is common and widely distributed in the Indomalayan subregion.

55. POLYRHACHIS (MYRMHOPLA) HIPPOMANES F. Smith var.
MOESTA Emery.

A single worker from Mokanshan (Gee). This variety, originally described from Sumatra, occurs also in Formosa. I have seen specimens from the Philippines.